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Neil Dias Karunaratne*

The Asian Miracle and Crisis

Rival Theories, the IMF Bailout and Policy Lessons

The high growth performance of a number of South-East Asian countries led to their being baptized 'miracle growth economies' by the World Bank. The following paper reviews the theories and stylised facts relating to the sudden reversal in this miraculous growth saga. The reasons for the failure of the first phase of the IMF rescue package are examined and the need for the establishment of a new global financing architecture outlined.

The growth miracle of the Asia-5 economies (Indonesia, Malaysia, Philippines, South Korea and Thailand) was panegyricised and their policies were hailed as 'a blueprint for emulation by developing economies in quest of rapid sustainable growth.'¹ The Asian economic crisis and the accompanying social and economic turmoil has irreparably tarnished the gloss of the Asian economic miracle, and triggered a lively debate about the proximate causes of the crisis. It has also highlighted the need to reform the IMF by making it part of a more effective global financial architecture that can respond to crises in a more effective manner. The currency and economic crisis that engulfed the Asia-5 economies in mid-1997 suddenly reversed the foreign capital inflows that had fuelled the Asian growth miracle for nearly three decades, causing the dramatic collapse of the growth miracle and plunging the Asian economies into recession.

This paper reviews the controversies as to whether the Asian economic growth miracle was fuelled by factor accumulation or total factor productivity respectively, based on growth accounting and cross-section productivity empirics. From the standpoint of predicting the eruption of a financial crisis that would cause a sudden collapse of the growth miracle, these growth accounting empirics were deafening in their silence.

We therefore seek analytical insights into the emergence of the crisis from rival currency crisis models. These canonical currency crisis models focus on weak macro-economic fundamentals or time-inconsistent policy measures which undermine policy credibility and therefore investor confidence as the

primary cause of the eruption of financial crisis. However, these first and second generation canonical models fail to fit the stylised facts on macroeconomic fundamentals in the Asian economies. Plausible explanations of the Asian crisis are offered by variants of rational self-fulfilling panic models, reflecting herd behaviour among investors converting illiquidity into insolvency or moral hazard behaviour among investors operating under implicit guarantees and investors in risky and speculative projects, thus creating an asset bubble that was destined to burst. When the panic set in and capital inflows were suddenly reversed, the IMF intervened with a bailout strategy to restore investor confidence and halt the capital outflows from the crisis-ravaged Asian economies. The IMF rescue package failed to prevent the collapse of the Asian miracle and plunged the Asian economies into social turmoil and recession. Furthermore, the international spread of the Asian crisis contagion poses a threat to the stability of the global financial system and could trigger a world-wide recession. We therefore conclude with a discussion of the need to establish an international policy or institutional framework or new financial architecture to combat the recurrence of crises and their rapid cross-border spillovers.

A Miracle or a Mirage?

The high growth performance of the Asia-5 economies led the World Bank² to baptize them as miracle growth economies and recommend that developing economies aiming for a rapid take-off to self-sustained growth should adopt the export-oriented policies practised by Asia-5. The per capita

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¹ Cf. World Bank: *The East Asian Miracle: Economic Growth and Public Policy*, Oxford University Press, New York 1993.

² *Ibid.*

incomes of Asia-5 had virtually quadrupled over the period 1970-95 with growth rates averaging nearly 7%, more than double that of the OECD growth rates for the same period. Furthermore, the benefits of growth in Asia-5 during this period had trickled down to the vast majority of the populace, raising average life expectancy by nearly 20% and adult literacy by more than 25%, whilst simultaneously reducing the poverty amongst the bottom 20% of the population by an average of more than 200% (see Table 1).

Despite high growth performance and the accompanying benefits, the analysis of Asian economic growth using the standard growth accounting framework³ and productivity regressions revealed that the Asian growth miracle had been fuelled by an increase in factor accumulation with negligible contributions from the Solow residual measuring total factor productivity (TFP).⁴ It was conjectured that the growth miracle in the Asia-5 economies was therefore destined to fizzle out due to the operation of the law of diminishing returns as had occurred in the Soviet model of planned economic growth based on factor

accumulation. Critics of the much touted World Bank vision of the Asian miracle argued that it was a myth based on "perspiration" or factor accumulation rather than "inspiration" or technological innovation and bound to run out of steam.⁵ Although these views were regarded as heretical during the halcyon days of high growth in Asia-5, after the 1997 Asian crisis they appear prophetic and sobering.

Nonetheless, the claims that the Asian growth miracle was predominantly the upshot of physical capital accumulation, or perspiration, has been challenged by new (or endogenous) growth theorists. Endogenous growth theories reason that human capital formation through education and technology transfer can play a pivotal role – via open-door trade policies – in increasing total factor productivity and accelerating growth.⁶ The revision of growth accounting empirics incorporating proxies to capture the nuances of endogenous growth confirm that human capital (education) and openness (technology transfer through trade flows) made substantive contributions to TFP in Asia-5. The average output growth per worker in Asia-5 economies during 1960-94 was 4.3% per annum. In this growth rate the contribution of capital exceeded 50%, the contribution of education was over 6% and the contribution of technology transfer and innovation was nearly 36% and therefore far from negligible (see Table 2).

A recent review of the growth accounting empirics contends that the disparate measures of TFP in Asian economies can be reconciled if allowance is made for differences in assumptions and estimation techniques. This study supports the endogenous growth perspective that TFP contributions to Asian growth via human capital formation and openness to trade have been substantial. The study also credits foreign direct investment with playing a crucial role in the transfer of disembodied technology and boosting TFP in these economies in the initial growth phase.⁷

³ See R. M. Solow: A Contribution to the Theory of Economic Growth, in: Quarterly Journal of Economics, Vol. 70, 1956, pp. 65-94.

⁴ See A. Young: Lessons From the East Asian NICs: A Contrarian View, in: European Economic Review, Vol. 38, 1994, pp. 964-973; also J. Kim and L. J. Lau: The Sources of Economic growth of the East Asian New Industrialised Countries, in: Journal of the Japanese and International Economies, Vol. 8, 1994, pp. 235-271.

⁵ P. Krugman: The Myth of Asia's Miracle, in: Foreign Affairs, 1994, Vol. 73, No. 6, pp. 62-78.

⁶ R. J. Barro: Economic Growth in a Cross-Section of Countries, in: Quarterly Journal of Economics, 1991, Vol. 106, No. 2, pp. 407-433; D. Romer: The Origins of Endogenous Growth, in: Journal of Economic Perspectives, 1994, Vol. 8, No. 1, pp. 3-22.

⁷ M. Dowling and P. H. Summers: Total Factor Productivity and Economic Growth Issues for Asia, in: The Economic Record, 1998, Vol. 74, No. 225, pp. 170-185.

Table 1

The Asia-5 Growth Miracle and its Trickle Down, 1970-1995

Country	GDP p.c. US\$ 1996	Growth % 1970-96	%Δ life exp. 1970-95	%Δ literacy rate 1970-95	%Δ poverty bottom 20% 1970-95
Indonesia	4280	6.8	33	55	232
Malaysia	9703	7.4	16	42	248
Philippines	3060	3.6	9	14	200
Thailand	8370	7.5	19	6	201
S. Korea	12410	8.4	20	11	122
Average	7565	6.7	19	26	201

Sources: World Bank and OECD: Columns (1) and (2); Columns (3) to (5): S. Radelet and J. Sachs: The East Asian Financial Crisis: Diagnosis, Remedies, Prospects, at: <http://www.hiid.harvard.edu/pub>

Table 2

Sources of Growth in Asia-5 (Averages 1960-94)

Country%	Growth of output /worker	Contribution capital %	Contribution education %	Contribution TFP %
Indonesia	3.5	58.4	15.0	26.6
Malaysia	3.8	60.8	13.2	24.2
Philippines	3.4	30.7	-19.8	73.2
Thailand	5.1	46.0	9.2	30.1
S. Korea	5.7	58.2	13.6	24.3
Asia-5	4.3	50.8	6.2	35.7

Sources: See S. Collins and B. Bosworth: Economic Growth in East Asia: Accumulation versus Assimilation, in: Brookings Papers on Economic Activity, 1996, No. 2, pp. 135-203.

Nonetheless, the growth accounting analytics and cross-section productivity econometrics on the Asian growth miracle by and large failed to forewarn of an impending crisis that would cause the collapse of the Asian growth miracle. In the following we examine more eclectic models of rational self-fulfilling panic amongst foreign creditors to provide answers to the question as to what caused the Asian economic crisis.

Rival Models of Economic Crisis

First-generation models explain currency crises in terms of weakening macroeconomic fundamentals caused by the pursuit of policies that are incompatible with a fixed exchange-rate regime. For example, expansionary fiscal policies (or recurrent budget deficits) leading to monetisation of the deficit can cause foreign exchange reserves to fall to critical levels. Speculators who want to make a profit can buy foreign exchange reserves, causing them to be exhausted and forcing the country to devalue or abandon the exchange-rate peg. The process of collapse of fixed exchange-rate regimes due to weakening macroeconomic fundamentals in Latin American economies incurring high levels of foreign debt in the 1970s, have been stylised in the first-generation models.⁸

Second-generation models differ from first-generation models by recognising the existence of nonlinear behaviour resulting in multiple equilibria. For instance, if an economy is not subject to shocks then the optimal equilibrium solution is the pursuit of a fixed exchange-rate policy. However, if the economy is subject to a severe shock (due to high unemployment) then the government can engage in discretionary policy (devalue under sticky wages) and thereby renege on its commitment to a fixed exchange-rate regime in order to achieve short-run welfare gains.⁹ Such time-inconsistent behaviour in exchange-rate

policy whilst delivering short-term welfare gains would be outweighed by the long-run deadweight loss of social welfare due to the undermining of reputation and loss of policy credibility.¹⁰ Second-generation models have several noteworthy features. First, they are nonlinear, meaning that they allow policy-makers to react to the state of the economy, unlike the first-generation models, which are state-invariant.¹¹ Second, these models allow for multiple equilibria where maintaining the exchange-rate peg in the absence of shocks is the optimal outcome and devaluing or abandoning the peg in the face of severe shocks can also be an equilibrium outcome. These second-generation models capture the time-inconsistent policy behaviour that caused the crisis in the European Exchange Rate Mechanism (ERM) in 1992 and the financial meltdown in Mexico (the Tequila crisis of 1994).

The pre-crisis fundamentals for 1996 reported for Asia-5 (Table 3) reveal that these economies were experiencing strong growth rates, budget surplus to GDP ratios, moderate inflation rates of about 6%, high savings rates of over 32%, trade openness indicators of nearly 39% and credit ratings that were higher than investment grade. These stylised facts fail to support the first-generation models that attribute economic crises to bad macroeconomic fundamentals nor do they lend support to the second-generation models that attribute crises to the pursuit of time-inconsistent macroeconomic policies. Hence, the causes of the Asian economic crisis cannot be explained by these canonical models and newer explanations have to be sought.

Alternative explanations of financial crises in terms of rational self-fulfilling panic may fit the bill. In these newer panic models an investor in a project could be illiquid in the short term but could generate a cash flow and be solvent in the long term. However, the

Table 3
Pre-crisis Macroeconomic Fundamentals
in Asia-5, 1996

Country	BD/GDP (%)	Inflation (%ΔCPI)	Savings/GDP (%)	Openness (X+M)/GDP	Credit rating 1996
Indonesia	-1.0	8.0	31.2	20.4	B
Malaysia	0.7	3.5	42.6	78.9	AA-
Philippines	0.3	8.4	15.6	31.2	BB-
Thailand	0.7	5.8	35.9	34.9	A-
Korea	0.0	4.9	35.2	28.9	BB+
Average	0.1	6.1	32.1	38.7	>BBB

Sources: Bank for International Settlements: 68th Annual Report (1998); World Bank & OECD; Consensus Economic Inc.; Bloomberg; Standard and Poors long-term foreign currency rating; BBB: Investment grade which is greater than junk-bond status.

⁸ S. Salant and D. Henderson: Market Anticipation of Government Policy and the Price of Gold, in: Journal of Political Economy, Vol. 86, 1978, pp. 627-648; P. Krugman: A Model of Balance of Payments Crises, in: Journal of Money, Credit and Banking, Vol. 11, 1979, No. 3, pp.311-325; R. Flood and P. Garber: Collapsing exchange rate regimes: some linear examples, in: Journal of International Economics, Vol. 17, 1984, pp. 1-13;

⁹ M. Obstfeld: Models of Currency Crisis with Self-Fulfilling Features, in: European Economic Review, Vol. 40, 1996, pp. 1037-1047.

¹⁰ F. Kydland and E. Prescott: Rules Rather than Discretion. The Inconsistency of Optimal Plans, in: Journal of Political Economy, Vol. 85, June 1977, pp. 473-491; R. Barro and D. B. Gordon: A Positive Theory of Monetary Policy in a Natural Rate Model, in: Journal of Political Economy, Vol. 91, August 1983, pp. 589-610.

¹¹ R. Flood and N. Marion: Perspectives on the Recent Currency Crisis Literature, NBER Working Paper, No. 6380, 1998.

inability of an investor to raise loans to service his short-term debt could plunge the illiquid investor into default and insolvency. This may be caused by creditor panic and collective or herd behaviour. Such an adverse outcome may be consistent with a rational equilibrium. However, it would enable the investor to recoup only the salvage value of the project. Whereas, if there were no creditor panic an investor could be solvent and enjoy a better equilibrium where he repays all his loans through the long-term cash flow generated by the project.¹² These illiquidity-insolvency rational equilibrium outcomes are also consistent with bank-run models, in which panic causes depositors to cause a run on the banks, resulting in the collapse of the banks. Banks are maturity providers that borrow short and lend long. A bank run which makes depositors withdraw *en masse* drives banks to the wall even though the banks may be solvent and have sound long-term fundamentals.¹³ Similar panic behaviour can seize fund managers, who can engage in herd behaviour during a bull run. Following the herd could cause a reversal to a bear market regardless of the soundness of the underlying fundamentals and solvency of the fund.

Another version of the self-fulfilling panic model, known as the moral-hazard asset bubble model, postulates that financial intermediaries in the Asia-5

economies channelled short-term capital or dollar-denominated foreign credit into risky and speculative investments. This was on the one hand due to the lack of prudential financial regulation and on the other hand due to connected lending by banks and financiers that operated hand in glove with vested interests (*à la* crony capitalism). The crony links offered implicit guarantees against future losses and default.¹⁴ The over-guaranteed and under-regulated lending to projects on the basis of Pangloss (most optimistic returns) created serious moral hazard problems. Here the investors in these risky projects were assured that any losses would not befall them but, rather, that they would be passed on to the taxpayers. The unregulated inflow of foreign capital also led to an over-borrowing syndrome, which fuelled an asset price bubble, as witnessed by sky-rocketing real estate and stock market prices, which was destined to burst and unleash panic, and put into reverse the capital inflow, causing a financial crisis.¹⁵

These models of rational self-fulfilling panic provide more plausible explanations for the sudden reversal of capital flows from the Asia-5 economies, which caused the collapse of the so-called growth miracle. The stylised facts clearly fail to support the argument that macroeconomic fundamentals or time-inconsistent policies were the cause of the Asian economic crisis in mid-1997.

Buildup of Vulnerability

A number of stylised facts did give clear warnings of a looming crisis. The real exchange rate in Asia-5 economies appreciated by over 10% due to the strengthening of the US anchor currency against the yen (Table 4, Col.1). This undermined the competitiveness of exports, which were already under pressure from the glut in the world over-production of

¹² S. Radlet and J. Sachs: The East Asian Financial Crisis: Diagnosis, Remedies, Prospects, at: <http://www.hiid.harvard.edu/pub>, 1998.

¹³ D. Diamond and P. Dybvig: Bank Runs, Deposit Insurance, and Liquidity, in: Journal of Political Economy, Vol.91, 1983, pp.401-419.

¹⁴ P. Krugman: What happened to Asia?, MIT 1998, mimeo.

¹⁵ Ibid.; R.I. McKinnon and H. Pill: Credible Liberalisation and International Capital Flows: The 'Overborrowing Syndrome', in: T. Ito and A. O. Krueger (eds.): Financial Deregulation and Integration in East Asia, National Bureau of Economic Research, East Asia Seminar on Economics, Vol.5, University of Chicago Press 1996.

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labour-intensive exports: textiles, clothing and footwear; consumer electronics; motor cars and components; and semiconductors. The massive influx of foreign capital contributed to the high current account to GDP ratio which averaged 5.5% (Table 4, Col.2). More than 70% of the foreign capital inflows went to the private sector (Table 4, Col. 3). Much of the capital inflow was inefficiently allocated and this was reflected in the high ratio of non-performing loans to debt (17%) and the high incremental capital output ratios (ICOR) of more than 13 (Table 4, Cols. 4 and 5). The defining indicator of the vulnerability of the Asia-5 economies to an imminent crisis was the high ratio of short-term debt to foreign exchange reserves (STD/R). This ratio exceeded unity (average = 1.4) implying that the available foreign exchange reserves could not cover the repayment of the short-term foreign debt – a cause for creditor panic (Table 4, Col. 6).

The above stylised facts reveal that Asia-5 economies were vulnerable to a crisis due to creditor panic as foreshadowed in the panic models.¹⁶

The devaluation of the Thai baht on 2nd July, 1997 sent shock waves throughout the region causing financial meltdown in the Asia-5, resulting in panic withdrawals of short-term capital by foreign creditors. The rapid regional spillover of the crisis contagion posed the threat of systemic risk to the world financial system. In the following we identify the channels through which the crisis contagion from Thailand was transmitted throughout the region.

Contagion Transmission and Systemic Risk

The Asian economic crisis, which originated in Thailand with the sudden devaluation of the Thai baht, rapidly spilled over into the neighbouring economies through three channels: geographical proximity and communication; trade and competitive devaluation; and signalling. The geographical proximity channel, as measured by the physical distance and telecommunication interactions between Thailand and other Asia-5 economies, does not appear to have been very significant, however. The trade and competitive devaluation channel also does not appear to have been important, despite the large similarity of export goods of over 40% (see Table 5, Col. 4). The

most important channel for the transmission of crisis contagion from Thailand to the other Asia-5 countries seems to have occurred through the signalling channel. The collapse of the Thai baht warned foreign investors that the fragility of the Thai financial system was replicated in the other Asian economies. This caused the run by foreign creditors to withdraw capital from South Korea, Malaysia and then Indonesia.¹⁷

The rapid regional spillover of the crisis contagion from Thailand induced the IMF to intervene and bail out the crisis victims and stem the spread of the crisis beyond the region to the global economy. The economic justification for intervention in the financial

Table 4
Stylised Facts on Vulnerability to Panic, 1996/97
(percentages)

Country	RER (90-96) (1)	CAD/GDP (2)	LPS /GDP (3)	NPL/D (4)	ΔICOR 1987-96 (5)	STD/R (6)
Indonesia	5.1	-3.8	55.4	17	-	1.6
Malaysia	11.8	-6.3	90.4	18	13	0.6
Philippines	16.0	-4.5	48.4	14	-	0.7
Thailand	7.6	-8.0	97.0	19	15	1.1
Korea	12.0	-4.8	61.8	16	13	3.0
Average	10.5	-5.5	70.6	17	14	1.4

Sources: Col. (1) % RER: Real Exchange Rate Appreciation 1990 to 1996, Base 1990=100, J. P. Morgan; Col. (2) % CAD/GDP: Current A/c Deficit(CAD)/GDP, International Financial Statistics, IMF (1997); Col. (3) % LPS/GDP, Bank Lending to Private Sector/GDP; Col. (4) % NPL/Debt. Non-performing loans /Debt; Col. (5) % ΔICOR: Change in incremental capital output ratio from 1990 to 1996, J. P. Morgan; Col. (6) % STD/R, Short-Term Debt/Foreign Exchange Reserves, World Bank (1998).

Table 5
Channels for Transmission of Thai Crisis
Contagion
(bilateral links with Thailand)

Country	Distance (km) (1)	Telephone calls (2)	Export market (3)	Export similarity (4)
Indonesia	2310	1.3	2.2	<0.40
Malaysia	1180	2.5	4.6	0.40
Philippines	2210	<2	1.8	0.39
Thailand	0	-	0	0
S. Korea	1720	n.a.	1.8	0.44

Col (2): Incoming calls to Thailand as percentage of total international calls.

Col.(3): Export market: percentage share of country's exports that went to Thailand.

Export similarity: Similarity of product composition of exports with those of Thailand.

Sources: IMF Direction of Trade Statistics; M. Goldstein and J. Hawkins: The Origin of the Asian Financial Turmoil, Research Discussion Paper No. 9805, Economic Research Department, Reserve Bank of Australia, 1998.

¹⁶ S. Radelet and J. Sachs, op.cit.; P. Krugman: What happened to Asia?, op.cit.; G. Corsetti, P. Pesenti, N. Roubini: What caused the Asian currency and financial crisis?, Asian Crisis Homepage at: <http://www.stern.nyu.edu/froubini/asia/AsiaHomepage.html>, 1998.

¹⁷ M. Goldstein and J. Hawkins: The Origin of the Asian Financial Turmoil, in: Research Discussion Paper No. 9805, Economic Research Department, Reserve Bank of Australia, 1998.

markets was that the offer of a bailout, deposit insurance, or the imposing of reserve requirements was aimed at preventing the crisis contagion from snowballing into systemic risk causing the collapse of the whole financial system. There are at least two grounds for intervention or bailouts to prevent crisis contagion from becoming a full-blown systemic risk. First, the divergence between social and private risk, because private agents fail to internalise the costs of contagion risks. Secondly, market failure to price risks efficiently because of the focus on short-term gains, regardless of the soundness of long-term fundamentals, just as Keynes' metaphor on beauty contests explained that a selection in a beauty contest is made on the basis of what other judges consider to be beauty rather than who fundamentally is the true beauty in the contest. Thus, decision-making based on herd behaviour unrelated to the true macroeconomic fundamentals, even when these are sound, can precipitate a financial crisis.

The IMF Bailout Package

The IMF, in collaboration with other multilateral agencies (World Bank and Asian Development Bank) and the bilateral agencies, provided nearly \$112 million in foreign reserves to the central banks of the three crisis-ravaged Asian economies to meet the debt service and repayment needs of foreign creditors (see Table 6).

The IMF bailout strategy aimed to restore confidence amongst foreign creditors by replenishing foreign exchange reserves in the Asian central banks. It was hoped that exchange rates would thereby be stabilised and the outflow of foreign capital reversed. By the end of the first phase in 1997, it was evident that the IMF bailout package had failed to restore market confidence and halt the exodus of capital from Asia-5 economies. A telling indicator of this failure was the downgrading of Asia-5 credit rating to junk bond status by the international credit-rating agencies.

Several explanations have been proffered for the failure of the first phase of the IMF bailout package. First, the IMF's institutional view that the Asian crisis was triggered by weak macroeconomic fundamentals rather than by self-fulfilling creditor panic was not conducive to confidence-building amongst international investors. Second, the IMF's attempt to implement radical financial-sector and macroeco-

Table 6
IMF Bailout Package, 1997
(in US\$ billions)

Country	IMF	Multilateral	Bilateral	Total	%disbursed 10/4/98
Indonesia	9.9	8.0	18.7	36.6	8
Korea	20.9	14.0	58.2	58.2	26
Thailand	3.9	2.7	17.1	17.1	16
Total	34.7	24.7	52.5	111.9	19

Source: IMF website (www.imf.org).

nomie restructuring as a pre-condition for disbursing the bailout to crisis-torn economies exacerbated the panic. There is ample evidence from past manias and panics that any attempt to carry out drastic structural reforms in the midst of a creditor panic tends to inflame the panic and worsen the crisis.¹⁶ Third, the stringent macroeconomic disciplinary targets such as the achievement of budget surpluses of nearly 1% of GDP per annum, interest rate hikes, credit crunches and other restrictive policies accelerated the slide towards recession rather than recovery. Fourth, the closure of unviable banks and financial institutions spawned a liquidity crisis and this prevented export-oriented industries from obtaining working capital and opening letters of credit to facilitate trade and make use of the opportunities created by the massive depreciation. Fifth, the tranching of disbursement of the bailout funds subject to strict conditionality and arduous negotiations emasculated the IMF's role as a quasi lender of last resort. Sixth, the linking of long-term structural reform to the short-term need to provide finance represented an unnecessary distraction. The IMF bailout failed to provide the liquidity required to avoid the insolvency of financial institutions and thereby calm creditor panic. After a lapse of ten months, only 20% of the bailout commitments had been disbursed (Table 6).

In the second phase (1998) of the bailout, the IMF drastically revamped its strategy in an attempt to re-instil market confidence. The IMF relaxed its insistence on the achievement of tight fiscal and monetary policy targets to qualify for the bailout. The IMF also spearheaded the negotiations for the rollover of the Korean short-term debts by international creditors by securing an extension of the maturity periods. In the case of Thailand, the IMF negotiated the issuance of government guarantees for liabilities owing to both foreign and domestic creditors by Thai financial institutions. In the case of Indonesia, after much foot-dragging, the Indonesian government was persuaded by the IMF to sign up orderly workouts for the repay-

¹⁶ C. P. Kindleberger: *Maniacs, Panics and Crashes: A History of Financial Crises*, Wiley and Sons, New York 1996.

ment of its massive stockpile of non-government or corporate debt. These rollovers, government guarantees and orderly workout arrangements on debt repayments avoiding outright default restored a modicum of calm to the highly volatile financial markets of Asia-5 during the middle of 1998. But overall, after one year of financial turmoil resulting from the pursuit of misaligned exchange-rate pegs and reckless short-term borrowing, the Asian economies had taken a severe economic battering as shown by an array of economic indicators (Table 7).

During the year ending in mid-1998 the exchange rates of Asia-5 domestic currencies with the US dollar had depreciated on average by more than 215%, with the exchange rate in Indonesia plummeting nearly five-fold in just one year. Stock-market prices during this period nose-dived by 72% and short-term interest rates sky-rocketed by more than 167%. The credit ratings of the Asia-5 economies were also downgraded to junk bond status or less than investment grade. With exchange rates depreciating, asset prices falling and rising interest rates, the Asia-5 economies, which had had a track record of rapid growth for nearly three decades, were reporting recessions. In the year ending in the first quarter of 1998 GDP on average for Asia-5 fell by 2.2% and the recessionary trends are expected to continue into the next year (Table 7).

The challenge facing the turmoil-ridden Asian economies is how to get on to the pre-crisis potential growth trajectory. The implementation of appropriate policies both on the domestic front and in the

international arena will determine the speed at which the Asia-5 economies will recover from their present crisis.

Need for IMF Reform

The Asian economic crisis has highlighted the need to reform the IMF by establishing a new global financial architecture that will counteract the 'casino' effects on the economies of the world caused by mercurial changes in investor confidence and massive cross-border inflows and outflows of short-term capital. These massive cross-border inflows and outflows of short-term capital, which are a hallmark of the increased financial globalisation of the world economy, have also increased macroeconomic volatility and pose a disruptive threat to world trade, investment and, therefore, growth. As a result, there is an emerging consensus that global financial institutions such as the IMF need to be reformed so that they can address the issues of capital hypermobility and sudden surges in exchange-rate volatility that occur due to changes in the ebb flow of short-term financial capital in the global economy.

Seven pillars for establishing a global financial architecture or institutional framework for calming down the volatile tendencies of the global financial markets have been identified.¹⁹ They relate to the

- harnessing of the dynamics of the global information economy for development,
- integration of developing economies with the global economy,
- steadfast pursuit of trade liberalisation and open-door investment policies,
- adoption of transparent world best-practice management techniques,
- pursuit of excellence in corporate governance and elimination of corruption,
- adoption of international accounting and codes of prudential regulation,
- use of the accumulated expertise of the IMF to solve global problems.

The establishment of the new financial architecture will ensure that developing economies will, first, establish an environment to harness cross-border capital flows – which now exceed US\$ 1.3 trillion per

Table 7
Crisis Economic Indicators for Asia-5

Country	%Δ ex-rate (1)	%Δ stock pr (2)	%Δ i-rate (3)	Credit rating (4)	%Δreal GDP 1998 (5)
Indonesia	499	-89	400	B3	-6.8
Malaysia	157	-73	154	A2	-1.8
Philippines	147	-57	127	Ba1	1.7
Thailand	132	-68	0	Ba1	-0.4
S. Korea	141	-74	153	Ba1	-3.8
Average	215	-72	167	Baa	-2.2

Col(1): Depreciation of the exchange rate per US\$ for the year ending Aug 5th. Source: The Economist, 8/8/98.
 Col(2): Fall in stock market prices over the year ending on 4/7/98. Source: Data Stream International.
 Col (3): Rise in short-term money market interest rate for the year ending 4/7/98. Source: Data Stream International.
 Col.(4): Credit rating on 20/7/98. Sources: Standard & Poor's and Data Stream International.
 Col.(4): Credit rating on 20/7/98. Sources: Standard & Poor's and Data Stream International. (Lower alpha implies higher risks. Cut-off for the investment grade is Baa or triple B).
 Col.(5): GDP growth. Source: The Economist, 8/8/98.

¹⁹ M. Camdessus: Toward a New Financial Architecture for a Globalized World, <http://www.imf.org/external/np/speeches/1998/050898.htm>.

day – to lubricate trade without at the same time infusing instability by channelling the capital to speculative short-term investments. Second, the need for policies that will direct capital flows to long-term productive investments is underscored. This would require the restructuring of fragile domestic financial systems so that they ensure that prudential supervision and corporate governance will avoid the pitfalls of investing in unviable projects. Third, macroeconomic restructuring to improve the absorptive capacity of long-term foreign investment needs to be addressed. Fourth, in view of the lack of financial, technical and legal expertise in developing Asia, these countries should harness the expertise of the IMF to carry out the complex sequential financial reforms required to revitalise their fragile financial systems. These reforms in developing Asia will contribute to the establishment of a more robust global financial architecture.

The new financial architecture will also require a reformed IMF that will engage in more effective use of its policy instruments of surveillance and conditionality. First, the IMF should be required to monitor information and engage in surveillance that will issue timely warnings to countries that are lunging towards a crisis. Second, the IMF should use its conditionality provisions in giving out loans to ensure more effective implementation of the reform of fragile financial systems and the restructuring of the economies, thereby ensuring that foreign borrowings pass the test of prudential supervision and can be absorbed effectively by the recipient economy implementing these reforms. Third, the IMF should play a more effective role in regulating capital flows either through proper advocacy²⁰ or through the amendment of Article 6 of the Charter, giving the IMF a jurisdictional role credibly regulating capital flows.²¹ In a world of capital hypermobility a global financial architecture in which the IMF plays a more active role in crisis monitoring and capital flow regulation, the sudden eruption of the Asian type of crisis can be averted.

Prognosis

Asian economies are engaged in a process of economic restructuring and financial sector reform under the surveillance of the IMF and subject to its bailout conditions. The implementation of the IMF bailout package involves severe austerity measures that inflict hardships on the segments of the most marginalised and poverty-stricken populations in the Asia-5 economies. The necessity for the domestic

political leadership to rise to the occasion and implement the bitter IMF medicine without unleashing massive social unrest and political turmoil represents a considerable challenge to Asia-5 policymakers today.

Whilst achieving the internal balance needed to bounce back to the pre-crisis growth locus remains a question of domestic political leadership and astuteness, the external balances of the Asia-5 economies are inextricably interwoven with the performance of the global economy. The sudden collapse of the Asian economic miracle and the spread of the crisis contagion or its foreign repercussions are going to affect the growth dynamics of the locomotive economies of the world: the USA, Europe and Japan. Furthermore, the Asian crisis contagion, which is basically the upshot of panic reaction by short-term international investors in response to perceived risks and dangers of imminent default by their borrowers, are likely to be replicated in Russia and Latin America (Brazil), thereby re-running the Asia-5 crisis and the IMF bailouts in these countries. The proliferation of financial crises and the ensuing exchange-rate volatility and investor uncertainty will sap world growth and trade dynamics.

The ominous rumblings that the world economy is heading for a recession does not augur well for the speedy recovery of Asia-5 from the crisis that has engulfed it over the past year. The performance of the global economy over the short term will depend crucially first, on how the Japanese economy reforms its financial system and extricates itself from the current slump; and second, on how the political and financial turmoil in the Russian economy is quarantined without its crisis contagion spilling over to the developing economies of Latin America and Asia. On the positive side, the establishment of the euro and the revitalisation of the European economy, together with the continued strong economic performance by the US economy, would continue to act as major locomotives for world trade and growth. The faltering of these locomotive economies due to the pursuit of restrictive policies would slow down the global economy and impair the strategies implemented by the Asia-5 economies to regain the pre-crisis growth momentum.

²⁰ J. Stiglitz: The Role of International Financial Institutions in the Current Global Economy, Address to the Chicago Council of Foreign Relations, The World Bank, 1998, at: <http://www.worldbank.org/html/extdr/extme/jsspo022798.htm>.

²¹ M. Guitian: The Challenge of Managing Global Capital Flows, in: Finance & Development, Vol. 35, 1998, No. 2.